

Aerated Static Pile Composting

St. John's University

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The “Grouper’s” Definition of Composting

Transformation of raw organic materials into biologically-stable, humus-rich substances suitable for growing plants.

The “Splitter’s” Definition of Composting

Composting is the biological decomposition and stabilization of organic substrates, under conditions that allow for the development of thermophilic temperatures as a result of biologically produced heat, to produce a final product that is stable, free of pathogens and plant seeds, and can be beneficially applied to land.

Thus, composting is a form of waste stabilization, but one that requires special conditions of moisture and aeration to produce thermophilic temperatures.

Thermophilic temperatures are generally considered to be above 45°C (113°F). Maintenance of thermophilic temperatures is the primary mechanism for pathogen inactivation and seed destruction.

Ten Objectives of Composting

1. Protect surface water and ground water quality.
2. Reduce the volume of waste sent to landfills
3. Control ODORS and Reduce VOC Emissions
4. Control flies, rodents and birds.
5. Destroy pathogens and weed seeds.

Ten Objectives of Composting

6. Reduce the volume of the initial mix (30–50%).
7. Convert a significant operating expense into profits.
8. Process materials systematically to minimize cost.
9. Maintain good relations with neighbors and regulators.
10. Comply with federal, state and local regulations.

Alternative Methods of Composting

Simple to Complex

FEL Turned Windrows



Zoo Doo at Woodland Park Zoo, Seattle, WA

Front End Loader (FEL) Turned Windrows, Large



Topsoils Northwest in Snohomish, WA

Turned Windrow



Salinas, CA

Turned Windrow



WSU in Pullman, WA

Passive Aeration



WSU Cooperative Extension Center in Puyallup, WA

Aerated Bins and Bays



Snohomish, WA



Greenville, NC

Turned Windrows



Upper Valley Disposal Service, Napa, CA

Positive Aeration



Upper Valley Disposal Service, Napa, CA

Extended ASP Composting



Each Pile Contains ~ 25,000 CY

Negative Aeration



Jo-Grow Compost, Grants Pass, OR

Positive / Negative Aeration



The Compost Factory, Puyallup, WA

Proprietary Compost Systems

ASP Composting – Bays



O₂Compost / ECS

ASP Primary/Turned Block Secondary



O₂Compost / ECS

ASP Bunker System



ECS Aeration Floor & Temperature Sensors

Aeration & Odor Scrubbing



ECS Reversing Aeration System and Biofilter

Turned Block After 14 Days



Vermeer Windrow Turner

Covered ASP



ECS AC Composter™ & CompDog™

In-Vessel Composting – Biosolids



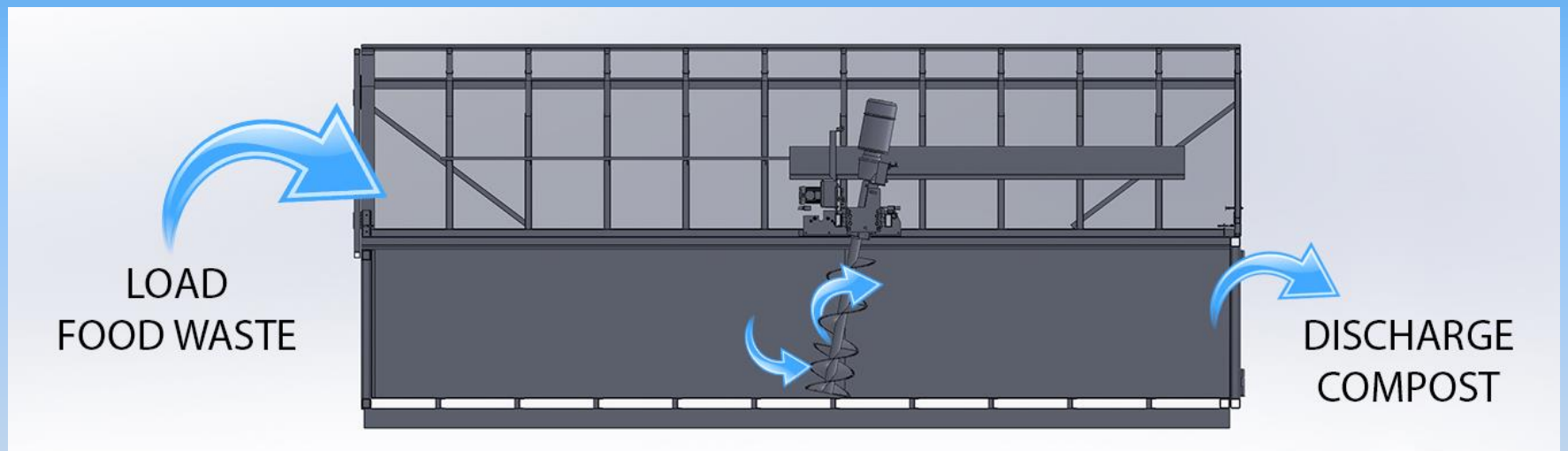
ECS CV Composter™

In-Vessel Earth Machine



Green Mountain Technologies

In-Vessel Earth Machine



Green Mountain Technologies

In-Vessel Earth Tub



Green Mountain Technologies

Aerated Channels



Transform Compost Systems

Fully Enclosed



Transform Compost Systems

Pilot Demonstration Southern California: Food Waste Study



Gore® Cover

Green and Food Waste: Washington, USA

160,000 Tons / Year



Gore® Cover

GORE® Cover Alternative Design Options



Box Bunker



Standard Bunker



PLS Design



Super Bunker



Biodegma®

In-Vessel / Rotary Drum Composter



Enviro-Drum by DTEnvironmental in Lynden, WA

In-Vessel / Rotary Drum Composter



Enviro-Drum by DTEnvironmental in Lynden, WA